APPENDIX D

Recommended ITS Standards for each Communications Interface Class

Center-to-Center Communications

Issuing SDO	Document No.	Title
NTCIP	1101	NTCIP Simple Transportation Management Framework (STMF)
NTCIP	1102	NTCIP Octet Encoding Rules (OER)
NTCIP	1201	NTCIP Global Object (GO) Definitions
NTCIP	1204	NTCIP Objects for Environmental Sensor Stations (ESS)
NTCIP	2202	NTCIP TP-Internet (Transmission Control Protocol TCP / Internet Protocol IP and User Datagram Protocol UDP / IP)
NTCIP	2301	NTCIP AP-STMF (Simple Transportation Management Framework)
NTCIP	2302	NTCIP AP-TFTP (Trivial File Transfer Protocol)
NTCIP	2303	NTCIP AP-FTP (File Transfer Protocol)
NTCIP	2304	NTCIP AP-DATEX-ASN (Data Exchange - Abstract Syntax Notation)
NTCIP	2305	NTCIP AP-CORBA (Common Object Request Broker Architecture)
IEEE	1512-2006	Common Incident Management Message Sets for Use by Emergency Management Centers
ITE	TMDD MS/ETMCC v2.1	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
SAE	J2353	Data Dictionary for Advanced Traveler Information Systems (ATIS)
SAE	J2354	Message Sets for Advanced Traveler Information System (ATIS)
APTA	TCIP-S-01 3.0.0	APTA Standard for Transit Communications Interface Profiles (Volume I – IV)

Center-to-Field Communications

Issuing SDO	Document No.	Title
NTCIP	1101	NTCIP Simple Transportation Management Framework (STMF)
NTCIP	1102	NTCIP Octet Encoding Rules (OER)
NTCIP	1201	NTCIP Global Object (GO) Definitions
NTCIP	1202	NTCIP Objects for Actuated Signal Controller Units (ASC)
NTCIP	1203	NTCIP Objects for Dynamic Message Signs (DMS)
NTCIP	1204	NTCIP Objects for Environmental Sensor Stations (ESS)
NTCIP	1205	NTCIP Objects for CCTV Camera Control
NTCIP	1206	NTCIP Objects for Data Collection and Monitoring Devices (DCM)
NTCIP	1207	NTCIP Objects for Ramp Meter Control (RMC)
NTCIP	1209	NTCIP Objects for Transportation Sensor Systems (TSS)
NTCIP	2002	NTCIP Class A and C Profiles
NTCIP	2102	NTCIP SP-PMPP (Point-to-Multi Point Protocol) / RS232
NTCIP	2202	NTCIP TP-Internet (Transmission Control Protocol TCP / Internet Protocol IP and User Datagram Protocol UDP / IP)
NTCIP	2301	NTCIP AP-STMF (Simple Transportation Management Framework)
NTCIP	2302	NTCIP AP-TFTP (Trivial File Transfer Protocol)
NTCIP	2303	NTCIP AP-FTP (File Transfer Protocol)

NTCIP	2305	NTCIP AP-CORBA (Common Object Request Broker Architecture)
NTCIP	2306	Application Profile for XML in ITS Centre to Centre Communications CAP-C2CXML)
ITE	TMDD MS/ETMCC v2.1	Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
SAE	J2354	Message Sets for Advanced Traveler Information System (ATIS)
APTA	TCIP-S-01 3.0.0	APTA Standard for Transit Communications Interface Profiles (Volume I – IV)

Center-to-Vehicle/Traveller Communications

Issuing SDO	Document No.	Title
SAE	J1746	ISP-Vehicle Location Referencing Standard
SAE	J2313	On-Board Land Vehicle Mayday Reporting Interface
SAE	J2353	Data Dictionary for Advanced Traveler Information Systems (ATIS)
SAE	J2354	Message Sets for Advanced Traveler Information System (ATIS)
APTA	TCIP-S-01 3.0.0	APTA Standard for Transit Communications Interface Profiles (Volume I – IV)

Field-to-Vehicle Communications

Issuing SDO	Document No.	Title
NTCIP	1201	NTCIP Global Object (GO) Definitions
IEEE	1455-1999	Message Sets for Vehicle/Roadside Communications
ASTM	E22313-03	Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems 5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications

Driver-to-Vehicle Communications

Issuing SDO	Document No.	Title
SAE	J2364	Navigation and Route Guidance Function Accessibility While Driving
SAE	J2365	Navigation and Route Guidance Function Accessibility While Driving
SAE	J2369	Definitions and Experimental Measures Related to the Specification of Driver Visual Behavior Using Video Based Techniques
SAE	J2399	Adaptive Cruise Control (Acc) Operating Characteristics and User Interface
SAE	J2400	Human Factors in Forward Collision Warning Systems: Operating Characteristics and User Interface Requirements

In-Vehicle ITS Communications

Issuing SDO	Document No.	Title
SAE	J1760	Data Security Services
SAE	J2366/1	ITS Data Bus - Idb-C Physical Layer
SAE	J2366/2	ITS Data Bus - Link Layer
SAE	J2266/4	ITS Data Bus - Thin Transport Layer
SAE	J2366/7	ITS Data Bus - Application Message Layer
SAE	J2367	ITS Data Bus Gateway Reference Design Recommended Practice
SAE	J2368	ITS Data Bus Conformance Testing Standard